



2623

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:

William M. Silver et al.

Title:

Method for Fast, Robust, Multi-Dimensional Pattern Recognition

Docket No.: C98-035

Serial No.: 09/114,335

Filed: July 13, 1998

Due Date: N/A

Examiner: Chang, Jon Carlton

Group Art Unit: 2623

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

We are transmitting herewith the following attached items (as indicated with an "X"):

A return postcard and this transmittal document.  
 An Supplemental Information Disclosure Statement (2 pgs.), Form 1449 (2 pgs.), and copies of 17 cited documents.

If not provided for in a separate paper filed herewith,

COGNEX CORPORATION

Customer Number: 23459

By



Arthur J. O'Dea

Reg. No. 42952

AJO:CMG:cs

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 12th day of April, 2005.

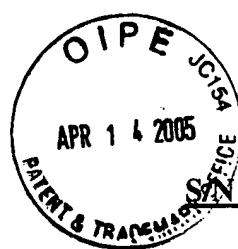
Name

Cheryl Sloane

Signature



(GENERAL)



PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: William M. Silver et al. Examiner: Chang, Jon Carlton  
Serial No.: 09/114,335 Group Art Unit: 2623  
Filed: 07/13/1998 Docket: C98-035  
Title: Method for Fast, Robust, Multi-Dimensional Pattern Recognition

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**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

The Information Disclosure Statement filed herewith is a resubmission of non-patent documents cited in an Information Disclosures Statement originally filed on November 25, 1998. Applicants are resubmitting these references in response to the Examiner's assertion that copies of these documents are missing.

Accordingly, the Applicants believe that the filing of this Information Disclosure Statement should be considered to filed **after** three months of the filing date of this application, but **before** the mailing date of the first Office Action on the merits.

The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

**INFORMATION DISCLOSURE STATEMENT**

Serial No :09/114,335

Filing Date: No

Title: Method for Fast, Robust, Multi-Dimensional Pattern Recognition

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Dkt: C98-035

Respectfully submitted,

WILLIAM M. SILVER ET AL.

By their Representatives,

Cognex Corporation  
One Vision Drive  
508-650-3108

Date April 12, 2005  
By   
Arthur J. O'Dea  
Reg. No. 42952

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Name

4/12/05

  
Signature



Substitute for form 1449A/PTO				Complete if Known	
				Application Number	09/114,335
				Filing Date	07/13/98
				First Named Inventor	Silver
				Group Art Unit	2623
				Examiner Name	Chang, Jon Carlton
Sheet	1	of	2	Attorney Docket Number	
C98-035					

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. <sup>1</sup>	Name of the Author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
		BALLARD, D.H., "Generalizing the Hough Transform to Detect Arbitrary Shapes," <i>Pattern Recognition</i> , 1981, pp. 111-122, Vol. 13, No. 2, Pergamon Press Ltd., UK		
		BALLARD, et al., "Section 4.2 Searching Near and Approximate Location," and "Section 4.3 The Hough Method for Curve Detection," <i>Computer Vision</i> , 1982, pp. 121-131, Prentice-Hall, Inc., Englewood Cliffs, NJ, USA		
		BROWN, LISA GOTTESFELD, "A Survey of Image Registration Techniques," <i>ACM Computing Surveys</i> , December 1992, pp. 325-376, Vol. 24, No. 4, Association for Computing Machinery, USA		
		CAELLI, et al., "Fast Edge-Only Matching Techniques for Robot Pattern Recognition," <i>Computer Vision, Graphics, and Image Processing</i> 39, 1987, pp. 131-143, Academic Press, Inc.		
		CAELLI, et al., "On the Minimum Number of Templates Required for Shift, Rotation and Size Invariant Pattern Recognition," <i>Pattern Recognition</i> , 1988, pp. 205-216, Vol. 21, No. 3, Pergamon Press plc.		
		COGNEX CORPORATION, "Chapter 2 Searching," <i>Cognex 2000/3000/4000 Vision Tools</i> , 1992, pp. 2-1 to 2-62, Revision 5.2 P/N 590-0103, Natick, MA, USA		
		COGNEX CORPORATION, "Chapter 1 Searching," <i>Cognex 3000/4000/5000 Programmable Vision Engines, Vision Tools</i> , 1996, pp. 1-68, Revision 7.4 590-1036, Natick, MA, USA		
		COGNEX CORPORATION, "Chapter 14 Golden Template Comparison," <i>Cognex 3000/4000/5000 Programmable Vision Engines, Vision Tools</i> , 1996, pp. 569-595, Revision 7.4 590-1036, Natick, MA, USA		
		COGNEX CORPORATION, "Apex Search Object Library Functions," Natick, MA, USA, 1998 but public before the above-referenced filing date.		
		COGNEX CORPORATION, "Apex Search Object," <i>acuWin version 1.5</i> , March 31, 1997, pp. 1-35, Natick, MA, USA		
		COGNEX CORPORATION, "Apex Model Object," <i>acuWin version 1.5</i> , March 31, 1997, pp. 1-17, Natick, MA, USA		
		COGNEX CORPORATION, "Description of Sobel Search," Natick, MA, USA, 1998 but public before the above-referenced filing date.		

Examiner Signature	Date Considered
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Considered. Include copy of this form with next communication with applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English translation is attached.

APR 14 2005

PTO/SB/08A (10-96)

Approved for use through 10/31/99 OMB 0651-0031  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known	
Application Number	09/114,335
Filing Date	07/13/98
First Named Inventor	Silver
Group Art Unit	2623
Examiner Name	Chang, Jon Carlton

Sheet

2

of

2

Attorney Docket Number

C98-035

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Name of the Author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		CROUZIL, et al., "A New Correlation Criterion Based on Gradient Fields Similarity," <i>Proceedings of the 13<sup>th</sup> International Conference on Pattern Recognition Volume 1 Track A: Computer Vision</i> , August 25-29, 1996, pp. 632-636, IEEE Computer Society Press, Los Alamitos, CA, USA	
		GRIMSON et al., "On the Sensitivity of the Hough Transform for Object Recognition," <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , March 1990, pp. 255-274, Vol. 12, No. 3	
		HSIEH et al., "Image Registration Using a New Edge-Based Approach," <i>Computer Vision and Image Understanding</i> , August 1997, pp. 112-130, Vol. 67, No. 2, Academic Press	
		ROSENFIELD et al., "Coarse-Fine Template Matching," <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , February 1997, pp. 104-107, USA	
		TIAN et al., "Algorithms for Subpixel Registration," <i>Computer Vision, Graphics, and Image Processing</i> 35, 1986, pp. 220-233, Academic Press, Inc.	

Examiner Signature		Date Considered	
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Considered. Include copy of this form with next communication with applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English translation is attached.

SEND TO: Assistant Commissioner for Patents, Washington, DC 20231